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stringent washing conditions of 3x20 min in 0.5% SSC, 1% SDS at 65°C with said isolated DNA having the sequence depicted in SEQ ID No. 1, SEQ ID No. 2 SEQ ID No. 20, or SEQ ID No. 32 and encoding a protein kinase having the same activity as the sequences depicted in SEQ ID No. 3, SEQ ID No. 21, or SEQ ID No. 33.--

Please amend claims 49-56 to depend from new claim 83.

REMARKS

During a recent telephone conversation with the Examiner, the Examiner asked whether SEQ ID NOS. 1, 2, 20, and 32 are full length genes or ESTs. None of these sequences are ESTs. SEQ ID NO: 1 represents the genomic DNA of the carrot SERK gene and is not an EST. SEQ ID NO: 2 represents the cDNA of the carrot SERK gene and is not an EST. SEQ ID NO: 32 represents the cDNA of the Arabidopsis thaliana SERK gene and is not an EST. SEQ ID NO: 20 represents partial genomic DNA of the Arabidopsis SERK gene. See the attached Exhibits 1-3.

The Examiner also requested data to show that the proteins encoded by the claimed DNA sequences have kinase activity. On page 7 of the specification, SEQ ID NOS: 1, 2, 20, and 32 are disclosed as DNA sequences that encode membrane bound protein having kinase activity. It is known that these sequences encode kinase activity, as they include kinase domains (See page 5, 4th full paragraph). Exhibits 1-3 establish that SEQ ID NOS. 1, 2, 20, and 32 all have recognized kinase domains that are known by those in the art to have kinase activity. Exhibit 1 establishes that SEQ ID NO: 1 contains a kinase domain starting at approximately location 235. SEQ ID NO: 2 is a cDNA of SEQ ID NO: 1, thus also containing the kinase domain.

Exhibit 2 establishes that SEQ ID NO: 32 contains the kinase domain starting at approximately position 307, and is likewise known by those in the art to have kinase acitivty.

Exhibit 3 shows that SEQ ID NO. 20 also contains a kinase domain having a small non-homologous insertion.

In view of the above amendments and remarks, it is submitted that the application is now ready for allowance. If any additional information is needed, the Examiner is invited to call the undersigned attorney at (919) 541-8614.

Respectfully submitted,

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